



Department
for Environment
Food & Rural Affairs

Code of practice for the welfare of

LAYING HENS AND PULLETS



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Preface

This preface is not part of the Code; instead, it explains the Code's role and the broad considerations on which it is based.

This Code applies to England only. It replaces the Code of Recommendations for the Welfare of Livestock: Laying Hens, issued in 2002.

The legal text in boxes throughout this document is not part of this Code but highlights relevant legislation. The text in these boxes is the law as it stands on the date that this Code is published (please see the final page for the date of publication). You should be aware that any of the legal requirements quoted here could change. You should check that these are an accurate statement of the law as it currently stands. See Annex 1 for a list of other relevant legislation.

This Code is made under the Animal Welfare Act 2006. The Act makes owners and keepers responsible for ensuring that the welfare needs of their animals are met, have a suitable environment, are fed an appropriate diet and are protected from pain, injury, suffering and disease.

Section 14 of the Animal Welfare Act 2006 states:

- 14 (1) The appropriate national authority may issue, and may from time to time revise, codes of practice for the purpose of providing practical guidance in respect of any provision made by or under this Act.
- (2) The authority responsible for issuing a code of practice under subsection (1) shall publish the code, and any revision of it, in such manner as it considers appropriate.
- (3) A person's failure to comply with a provision of a code of practice issued

under this section shall not of itself render him liable to proceedings of any kind.

- (4) In any proceedings against a person for an offence under this Act or an offence under regulations under section 12 or 13—
- (a) failure to comply with a relevant provision of a code of practice issued under this section may be relied upon as tending to establish liability, and
- (b) compliance with a relevant provision of such a code of practice may be relied upon as tending to negative liability.

The principal legislation referred to in this Code are the Welfare of Farmed Animals (England) Regulations 2007 (referred to later on in this Code as "WOFAR 2007") and the Mutilations (Permitted Procedures) (England) Regulations 2007, which implement Council Directive 98/58/EC concerning the protection of animals kept for farming purposes and Council Directive 99/74/EC which lays down minimum standards for the protection of laying hens.

Section 3 of the Animal Welfare Act 2006 states:

- 3 (1) In this Act, references to a person responsible for an animal are to a person responsible for an animal whether on a permanent or temporary basis.
- (2) In this Act, references to being responsible for an animal include being in charge of it.

- (3) For the purposes of this Act, a person who owns an animal shall always be regarded as being a person who is responsible for it.
- (4) For the purposes of this Act, a person shall be treated as responsible for any animal for which a person under the age of 16 years of whom he has actual care and control is responsible.

Welfare Act 2006 or a statutory welfare code issued under section 3 of the Agriculture (Miscellaneous Provisions) Act 1968 (1) relating to the particular species of farmed animal to which a person is attending.

Regulation 6 of the Welfare of Farmed Animals (England) Regulations 2007 states:

- 6 (1) A person responsible for a farmed animal—
- (a) must not attend to the animal unless he is acquainted with any relevant code of practice and has access to the code while attending to the animal; and
 - (b) must take all reasonable steps to ensure that a person employed or engaged by him does not attend to the animal unless that other person—
 - (i) is acquainted with any relevant code of practice;
 - (ii) has access to the code while attending to the animal; and
 - (iii) has received instruction and guidance on the code.
- (2) In this section, a “relevant code of practice” means a code of practice issued under section 14 of the Animal

This Code is intended to help all those who care for laying hens and pullets to practise good standards of stockmanship to safeguard bird welfare. Without good stockmanship, animal welfare can never be adequately protected. Adherence to these recommendations will help keepers to maintain the standards required to comply with legislation.

Those who have care for laying hens and pullets should demonstrate:

- Caring and responsible planning and management;
- Skilled, knowledgeable and conscientious stockmanship;
- Appropriate environmental design;
- Considerate handling and transport; and
- Humane culling.

The welfare of laying hens and pullets is considered within a framework that was developed by the Farm Animal Welfare Committee (FAWC) and known as the ‘Five Freedoms’. These form the guiding principles for the assessment of welfare within any system, together with the actions necessary to safeguard welfare within the constraints of an efficient livestock industry. The Five Freedoms should be considered in conjunction with FAWC’s three essentials of stockmanship.

The Five Freedoms are:

- 1. Freedom From Hunger And Thirst**
by ready access to fresh water and a diet to maintain full health and vigour;
- 2. Freedom From Discomfort** by providing an appropriate environment including shelter and a comfortable resting area;
- 3. Freedom From Pain, Injury Or Disease**
by prevention or rapid diagnosis and treatment;
- 4. Freedom To Express Normal Behaviour** by providing sufficient space, proper facilities and company of the animals' own kind;
- 5. Freedom From Fear And Distress** by ensuring conditions and treatment to avoid mental suffering.

The Three Essentials of Stockmanship are:

- 1. Knowledge Of Animal Husbandry**
Sound knowledge of the biology and husbandry of farm animals, including how their needs may be best provided for in all circumstances.
- 2. Skills In Animal Husbandry**
Demonstrable skills in observation, handling, care and treatment of animals, and problem detection and resolution.
- 3. Personal Qualities**
Affinity and empathy with animals, dedication and patience.

During on-farm welfare inspections carried out by the Animal and Plant Health Agency (APHA, an executive agency of Defra and exercising Secretary of State functions) and Local Authorities, inspectors will assess compliance against legislation and this Code. Not complying with the welfare-related legislation outlined in the boxes throughout this Code, is an offence. In cases that go to court

for prosecution, whether someone has met the requirements of this Code, or not, can be used to help establish a person's liability.

There may be other legislation and requirements that are not outlined in this Code but that you must be familiar with and comply with.

Section 4 of the Animal Welfare Act 2006 states:

- 4 (1) A person commits an offence if—
- (a) an act of his, or a failure of his to act, causes an animal to suffer,
 - (b) he knew, or ought reasonably to have known, that the act, or failure to act, would have that effect or be likely to do so,
 - (c) the animal is a protected animal, and
 - (d) the suffering is unnecessary.
- (2) A person commits an offence if—
- (a) he is responsible for an animal,
 - (b) an act, or failure to act, of another person causes the animal to suffer,
 - (c) he permitted that to happen or failed to take such steps (whether by way of supervising the other person or otherwise) as were reasonable in all the circumstances to prevent that happening, and
 - (d) the suffering is unnecessary.

- (3) The considerations to which it is relevant to have regard when determining for the purposes of this section whether suffering is unnecessary include—
 - (a) whether the suffering could reasonably have been avoided or reduced;
 - (b) whether the conduct which caused the suffering was in compliance with any relevant enactment or any relevant provisions of a licence or code of practice issued under an enactment;
 - (c) whether the conduct which caused the suffering was for a legitimate purpose, such as—
 - (i) the purpose of benefiting the animal, or
 - (ii) the purpose of protecting a person, property or another animal;
 - (d) whether the suffering was proportionate to the purpose of the conduct concerned;
 - (e) whether the conduct concerned was in all the circumstances that of a reasonably competent and humane person.
- (4) Nothing in this section applies to the destruction of an animal in an appropriate and humane manner.

Section 9 of the Animal Welfare Act 2006 states:

- 9 (1) A person commits an offence if he does not take such steps as are reasonable in all the circumstances to ensure that the needs of an animal for which he is responsible are met to the extent required by good practice.
- (2) For the purposes of this Act, an animal's needs shall be taken to include -
 - (a) its need for a suitable environment,
 - (b) its need for a suitable diet,
 - (c) its need to be able to exhibit normal behaviour patterns,
 - (d) any need it has to be housed with, or apart from, other animals, and
 - (e) its need to be protected from pain, suffering, injury and disease.

Suggested sources of additional information are included at the end of this Code. These sources of further information are relevant to the welfare of laying hens and pullets, but are for information only and should not be considered to be part of the Code of Practice.

This Code has been issued by the Secretary of State for the Department for Environment, Food and Rural Affairs (following no objections by either House after being laid in draft in both Houses of Parliament).

THIS WELFARE CODE CAME INTO FORCE ON 8 AUGUST 2018

Introduction

1. This Code (which applies in England only) covers all parts of the laying hen production sector, including pullets and breeding birds, and all types of husbandry systems. It covers single or multiple laying hens kept on a smallholding (hobby/backyard flock), as well as commercial laying hen producers. These recommendations will help owners and keepers of laying hens comply with animal welfare rules, but are not meant to replace expert advice such as from a veterinary surgeon or appropriately qualified technical advisor.
2. Schedule 1 to the Welfare of Farmed Animals (England) Regulations 2007 lays down conditions under which all farmed animals, including laying hens, must be kept. Schedules 2, 4 and 5 to the Welfare of Farmed Animals (England) Regulations 2007 lay down additional conditions that apply to the keeping of 350 or more laying hens. These additional conditions do not apply to establishments with fewer than 350 laying hens, hatcheries, pullet rearing farms or laying hen breeders. The Council of Europe has also made recommendations concerning laying hens and, where not covered in legislation, they are included in this Code.
3. The keeping of 350 or more laying hens in conventional (unenriched) cages has been banned in the UK on welfare grounds since 1 January 2012. For this reason, conventional cages are not recommended for small units (with fewer than 350 birds). The legal requirements that apply to the keeping of 350 or more laying hens (such as for nesting, perching, scratch areas and stocking density) are recommended as good practice in flocks with fewer than 350 birds. This Code's recommendations on enrichment provision, range access and reducing risks of injurious pecking are recommended as good practice for all flocks, regardless of size.
4. For ease of reference, the table below summarises the various legal provisions relating to animal welfare on farm for different types of laying hen production systems.

Production system	Legislation in England				
	Animal Welfare Act 2006	Schedule 1 to WOFAR 2007	Schedule 2 to WOFAR 2007	Schedule 4 to WOFAR 2007	Schedule 5 to WOFAR 2007
Hatcheries	✓	✓	-	-	-
Pullets	✓	✓	-	-	-
Establishments with <350 laying hens, including smallholdings	✓	✓	-	-	-
>350 laying hens in barn systems	✓	✓	✓	-	✓
>350 laying hens in free range systems	✓	✓	✓	-	✓
>350 laying hens in enriched cages	✓	✓	-	✓	✓
Organically reared laying hens	✓	✓	✓	-	✓
Laying hen breeders	✓	✓	-	-	-

5. The relevant animal welfare legislation applies to owners at all times as well as to any person looking after the hens on their behalf, wherever the hens are located. A written protocol should clearly set out for all parties their responsibilities in respect of welfare. However, the obligations imposed by the law will still apply.
6. No person should operate or set up a laying hen unit unless the welfare of all the birds can be safeguarded to comply fully with the law. This can be achieved by ensuring that the buildings and equipment, the skills and abilities, and the numbers of keepers are appropriate to the husbandry system and number of birds to be kept.
7. Keepers of flocks of 50 or more birds must register with APHA, within one month of keeping this number of birds at the site. Keepers with fewer than 50 birds are also encouraged to register.

Definitions

8. For the purposes of this Code, definitions of terms used in this Code are summarised below. Some of these (marked with an asterisk) are taken directly from the relevant legislation, whilst others are included to provide an explanation for the purposes of the Code.

‘biosecurity’ means a set of management actions and physical measures designed to reduce the risk of introduction, establishment and spread of disease to, from, and within the flock and, where relevant, between different flocks on site;

‘flock’ means a group of hens which are placed in a house of a holding and are present in this house at the same time;

‘holding’ means a production site on which laying hens are kept;

‘house’ means a building on a holding where a laying hen flock is kept;

‘injurious pecking’ is pecking behaviour directed at the feathers and skin of other birds and encompasses gentle and severe feather pecking, vent pecking and cannibalism;

‘owner’ or ‘keeper’ (*) means any natural or legal person or persons responsible for or in charge of animals whether on a permanent or temporary basis;

‘laying hen’ (*) means a hen of the species *Gallus gallus* which has reached laying maturity and is kept for the production of eggs not intended for hatching;

‘litter’ (*) means, in relation to laying hens, any friable material enabling the hens to satisfy their ethological needs;

‘mutilation’ is a procedure which involves interference with the sensitive tissues or bone

structure of an animal, otherwise than for the purpose of its medical treatment;

‘nest’ (*) means a separate space for egg laying, the floor component of which may not include wire mesh that can come into contact with the birds, for an individual hen or for a group of hens;

‘pullet’ is used to describe birds during their rearing period and at transfer to the laying house when no eggs have been laid by the flock. As soon as the first egg has been laid in the flock it becomes a laying hen flock;

‘red mites’ are ectoparasites (up to 0.7mm diameter and grey or red in colour) that feed on the blood of hens;

‘usable area’ (*) means an area, other than that taken up by a nest, used by laying hens which is at least 30cm wide with a floor slope not exceeding 14% and with headroom of at least 45cm.

Section 1: Recommendations applying to all husbandry systems

Stockmanship and staffing

Paragraph 1 of Schedule 1 to the Welfare of Farmed Animals (England) Regulations 2007 states:

1. Animals must be cared for by a sufficient number of staff who possess the appropriate ability, knowledge and professional competence.

9. Stockmanship is one of the most important influences on the welfare of laying hens. A good keeper will have a compassionate and humane attitude, will be able to anticipate and avoid many potential welfare problems and have the ability to identify those that do occur and respond to them promptly. Those responsible for managing a laying hen unit should make sure that the hens are cared for by well-motivated and competent staff. Before any unit is set up or expanded, it is important to be certain that the level of stockmanship will be sufficiently high to safeguard the welfare of the hens.
10. All staff and owners/keepers (where no staff are employed), including those contracted to carry out specific management tasks, need to be aware of the welfare needs and basic biology of the hens. To alleviate fear responses and possible injury, birds should be handled in a careful, positive and compassionate manner from an early age.
11. Staff and owners/keepers (where no staff are employed) need specific knowledge and skills. They must be trained and competent in any specific tasks they are required to undertake and be competent in the use of any equipment. In a farm situation, this should be developed on the unit by working with skilled staff who are experienced in the relevant system. Whilst under the supervision of others and before being given sole responsibility for animals, staff should have demonstrated competence and understanding, including on-farm practical ability, to ensure that they are capable of safeguarding the animals under all foreseeable conditions.
12. Regular training and refresher courses should be undertaken by all those responsible for laying hens, including those employed by contractors. Ideally, the training should lead to formal accredited recognition of competence.
13. Those working with hens should be able to recognise not only normal behaviour and good health and welfare, but also signs of illness or disease and should know how to seek veterinary advice. See also paragraphs 37 to 48. Where specialised tasks are to be performed, for example, medication or humane culling, specific training should be given and records kept of those staff competent to carry out those tasks. Alternatively, the services of a contractor using competent trained staff should be obtained.
14. It is essential to ensure enough time is available within the daily work routine to inspect the hens properly and any installations essential for their health and welfare and for any remedial action to be taken promptly. The owner/keeper should have adequate knowledge of the husbandry system to be able to appreciate the suitability of the total environment for the birds' health and welfare.
15. Any hens bred for farming purposes should not be used to achieve any other goal, including public spectacles or demonstrations, if such use is likely to be detrimental to their health or welfare.

Health and welfare plan

16. A health and welfare plan should be implemented for each farm which should set out health and husbandry activities covering the whole of the production cycle. Routine daily tasks and other regular checks essential for bird health and welfare should be clearly detailed. The plan should be developed with appropriate veterinary advice, regularly reviewed against performance and updated regularly, at the end of the flock or annually on a multi-age site.
17. Any plan should also establish management procedures and control measures to reduce the risk of infections and injury and include an effective vaccination programme. Antibiotics must not be used routinely, but only for treatment purposes as prescribed by a veterinary surgeon when specific disease or infection has been diagnosed to avoid a welfare issue.
18. The plan should include contingency measures to account for both endemic and potential notifiable disease. See also paragraphs 33 to 36. The plan should also include the use of welfare outcome assessments to assess and monitor the ongoing welfare of the hens. See also paragraphs 49 to 52.
19. There are many sources of technical advice available to producers, in addition to advice from their veterinary surgeon. They may also receive regular inspections from independent assurance schemes as part of their retailer supply contract and from government regulators. Social media is largely unregulated and therefore may not be a reliable source of information. Advice should always be verified by a veterinary surgeon or appropriately qualified technical advisor.
20. As part of the health and welfare plan, owners/keepers should establish in advance the best course of action to take should problems be identified and ensure that veterinary or other expert advice is sought when needed.

Biosecurity and disease control

Paragraph 4 of Schedule 5 to the Welfare of Farmed Animals (England) Regulations 2007 states:

- 4 (1) Those parts of buildings, equipment or utensils which are in contact with the hens must be thoroughly cleansed and disinfected regularly and, in any case, every time depopulation is carried out and before a new batch of hens is brought in.
- (2) While the cages are occupied:
 - (a) the surfaces and all equipment must be kept satisfactorily clean;
 - (b) droppings must be removed; and
 - (c) dead hens must be removed every day.

21. Biosecurity applies to flocks of any size, from smallholdings with one or two birds to commercial farm units.
22. Good biosecurity measures should result in:
 - a) farm units/smallholdings being more secure from the introduction of infectious diseases;
 - b) the spread of any diseases within the unit, specifically from flock to flock, being kept to a minimum; and
 - c) a reduced risk of spread of disease from the farm to other farms or elsewhere.

23. Good biosecurity can be achieved through:

- a) limiting external vehicle or equipment movement onto farm and instigating appropriate cleansing and disinfection procedures where this occurs;
- b) good management and husbandry procedures on site. These include:
 - i) where possible, “all in - all out” management of sites, by site or by accommodation block;
 - ii) clear biosecurity protocols when moving between different flocks on site, particularly where the site has different aged flocks;
 - iii) disinfection points on entry and exit from each accommodation or rearing section;
 - iv) separating staff responsibilities to specific sections and/or following strict disinfection protocols between different aged flocks; and
 - v) daily management routines which move from youngest birds through to the oldest.
- c) good hygiene throughout the site, including protocols in the health and welfare plan for staff hygiene, and cleansing and disinfection procedures when moving between flocks and other accommodation:
 - i) preventive disease control programmes, including vaccination and red mite management programmes;
 - ii) a pest control programme to limit access of rodents, wild birds, wildlife, domestic pets and other risks, to animals and feed stores; and

- iii) familiarising birds with changes in routine whilst limiting avoidable stressful events or conditions to which birds are exposed.

24. One way by which notifiable avian disease may spread to poultry is through contact with infected wild birds. It is not possible to prevent all airborne infections from entering a unit but, when planning new sites, consideration should be given to providing the maximum possible distance between the proposed site and existing sites as well as areas where migrating wild birds congregate, to improve biosecurity. A useful guide is the 3 km distance that defines the radius of a Protection Zone in the control of notifiable diseases, such as highly pathogenic avian influenza. The distance between houses on a site should also be considered. Ponds on site should be avoided but, where this is not possible, the hens should not be able to access them. Similarly, wild birds congregating on ponds, or otherwise, should not be able to access the hens’ feed and water, nor nest and roost in poultry buildings. A vermin control system should be in place to limit rodents and pests accessing and contaminating feed.

25. Only essential visitors should be allowed onto the unit. All visitors, including inspectors, should comply with the required biosecurity as stipulated by the owner/keeper (and which may be subject to change under changing disease challenges), including personal/private bird contact. Visitors should follow strict disinfection procedures and wear unit-dedicated clothing and footwear. A visitor book should be provided and all visitors should sign to say they have not been near other poultry for an agreed period, as stipulated in the health and welfare plan. A system should be provided to alert staff or visitors at the gate of these requirements before they enter the site. Consideration should be given as to the need for visitors to enter bird space.

26. Ideally, farm staff should not keep their own birds at home. If they do so, they should be extra vigilant for signs of disease and even more careful about biosecurity both at home and on the farm. Where possible, waterfowl (i.e. geese and ducks) should be kept separate from other poultry species.
27. Loading facilities and, where possible, feed bins and dead stock collection points should be sited at the unit perimeter. If used, isolation buildings for new stock should be as near as possible to the farm entrance and away from other buildings/ranges for disease monitoring to take place. Vehicles which visit other poultry units should be kept off the unit wherever possible but, where entry is essential, wheels and footwear should be cleansed and disinfected thoroughly on entry and exit.
28. Once emptied, bird housing should be thoroughly cleaned to remove organic material; where appropriate, washed with detergent; and then disinfected. Used litter should be removed from the house and the site before re-stocking to reduce the risk of carry-over of disease.
29. Owners/keepers should routinely use local and national surveillance information sources for the latest information on disease diagnoses in the area.
30. All owners/keepers should be familiar with the signs and symptoms associated with notifiable diseases which affect laying hens, including avian influenza and Newcastle disease. An owner/keeper who suspects the flock may be suffering from a notifiable disease, has a legal duty to report this immediately to APHA. All laying hen flocks of 350 or more hens are monitored under the National Control Programme for *Salmonella*, under which there are additional legal obligations.
31. Where notifiable disease is confirmed in birds on the farm/smallholding or other units there will be mandatory biosecurity measures and restrictions on movements which could persist for a considerable length of time and there may be a requirement to confine free range birds to their housing.
32. Keepers who have registered with APHA will be contacted by them by email or text message in the event of a disease outbreak. Keepers who have not registered should seek information from the Defra/APHA disease control website and should sign up to receive APHA disease alerts.

Contingency planning for disease and other emergencies

33. Measures should be put in place for contingency planning following an assessment of possible hazards. All owners/keepers should ensure they, or at least one responsible member of staff, are always on call to take the necessary steps. Emergency plans should deal with events such as:
 - a) the disruption of feed, power or water supply, including when automated equipment fails and cannot be immediately rectified;
 - b) heat stress;
 - c) natural disasters, such as floods;
 - d) fires;
 - e) arrangements for allowing rapid entry to locked buildings in case of emergency, for example, by providing clear instructions on emergency contact details;
 - f) instructions for short and long term restrictions placed in case of notifiable disease, including dealing with delays in moving birds to slaughter and the

compulsory temporary housing of free range birds; and

- g) arrangements for both culling and disposal of flocks, when depopulation is required in the event of notifiable disease or due to contamination of feed or pasture with toxins.

34. The use of alarm systems activated 24/7 should be considered, which allow prompt emergency warning of staff located on site or on duty remotely. Portable lighting such as a head torch should be available for emergency night time inspections.

35. Where long term housing of normally free range hens is anticipated, consideration should be given to the provision of additional littered flooring, enrichment and access to natural daylight within the confined housing, to avoid an increase in injurious feather pecking in birds that are normally accustomed to range access. A “veranda” or “winter garden” attached to the main accommodation could meet these additional requirements.

36. Responsibility for animal welfare during any enforced restrictions on movement or any other emergency on farm remains the responsibility of the owner/keeper. Any concerns about animal welfare during such periods should be discussed with a veterinary surgeon and, where appropriate, reported to APHA if animal welfare conditions deteriorate.

Inspection and responding to poor health and welfare

Paragraph 2 (1) and (2) of Schedule 1 to the Welfare of Farmed Animals (England) Regulations 2007 states:

- 2 (1)...animals kept in husbandry systems in which their welfare depends on frequent human attention must be thoroughly inspected at least once a day to check that they are in a state of well-being.
- (2)...animals kept in husbandry systems in which their welfare does not depend on frequent human attention must be inspected at intervals sufficient to avoid any suffering.

Paragraph 3 of Schedule 1 to the Welfare of Farmed Animals (England) Regulations 2007 states:

- 3. Where animals are kept in a building, adequate lighting (whether fixed or portable) must be available to enable them to be thoroughly inspected at any time.

Paragraph 1 of Schedule 5 to the Welfare of Farmed Animals (England) Regulations 2007 states:

- 1. All hens must be inspected by the owner or other person responsible for the hens at least once a day.

Paragraph 6 of Schedule 5 to the Welfare of Farmed Animals (England) Regulations 2007 states:

6. Accommodation comprising two or more tiers of cages must have devices, or appropriate measures must be taken, to allow inspection of all tiers without difficulty and to facilitate the removal of hens.

Paragraphs 5 and 6 of Schedule 1 to the Welfare of Farmed Animals (England) Regulations 2007 state:

5. Any animals which appear to be ill or injured must be cared for appropriately and without delay; where they do not respond to such care, veterinary advice must be obtained as soon as possible.
6. Where necessary, sick or injured animals must be isolated in suitable accommodation with, where appropriate, dry comfortable bedding.

37. A thorough flock inspection must take place at least once a day, irrespective of the presence of any automatic surveillance system. Ideally, there should be three inspections spread out across the day. Even when linked with other visits to the poultry houses, each health and welfare inspection should be undertaken as a separate, specific procedure.
38. Inspections should be sufficiently thorough to detect illness and injury of individual hens, and should include an inspection of nest boxes where hens in poor health may seek refuge. Aspects of the physical environment such as litter condition and air quality should also be monitored and problems rectified without delay.

39. Owners/keepers should try to introduce some variation into the inspection routine, including different members of staff where possible, to help reduce fearfulness and stress associated with any necessary changes in management during the rearing and laying periods. Frequent inspection helps familiarise hens to human presence in the house as a normal part of daily life.
40. Housing and equipment must be designed so that all the laying hens can be clearly seen. Light levels during inspection must be sufficient to ensure that the birds are clearly visible. See also paragraph 34.
41. Flock inspection should include an assessment of body condition, any growth variation within the flock, respiration, mortality, condition of plumage, indications of head or vent pecking, condition of droppings, eyes, skin, beak, legs, feet and claws, and, where appropriate, combs and wattles. Attention should be paid to the presence of external parasites, feed and water consumption and egg production level. The healthy individual hen should vocalise and perform activities appropriate to its age, breed or type, it should have clear bright eyes, good posture, clean healthy skin, good feather condition and coverage, well-formed legs and feet, effective walking and active feeding and drinking behaviour.
42. Inspections should be made at every level of multi-tier and enriched cage systems. In order to ensure a thorough inspection, the owner/keeper should pass close enough to every bird to encourage them to move, taking care not to frighten them with sudden, unaccustomed movement, noise or changes in light levels. This will enable the identification of any individual that is sick, injured or weak for appropriate action to be taken by the owner/keeper. Individual examination should occur where inspection suggests animal health or welfare is compromised and may require prompt intervention, including humane culling.

43. The early signs of ill-health may include changes in food and water intake, preening, vocalisation and flock activity levels. There may also be a drop in egg production and changes in egg quality, such as shell defects. Any variation in normal feeding, drinking or behaviour may indicate a problem which should be given immediate attention, in order to identify the cause and rectify any emerging issue that is of risk to the flock's health and welfare.
44. The owner/keeper should be able to anticipate problems or recognise them in their earliest stages and, in many cases, be able to identify the cause and put matters right immediately. Recording all incidents suggesting a health or welfare concern, in addition to minimum legal records requirements on mortality and medicines, may help in this. Such monitoring should be included in the health and welfare plan, so all staff are clear on specific measures to be made on a daily basis or at the time of specific management procedures. Advice should be sought, where appropriate. See also welfare outcome assessments at paragraphs 49 to 52.
45. The possibility that the birds may be affected by a notifiable disease should be considered and all owners/keepers and staff should be aware of risks and clinical symptoms associated with new and emerging diseases. See also paragraphs 29 to 32. If the cause is not obvious, or if the immediate action taken is not effective, a veterinary surgeon's advice must be sought immediately; failure to do so may cause unnecessary suffering in the individual and/or in other hens subsequently affected by lack of prompt action.
46. Hens that are injured or show signs of illness and are likely to suffer, must receive appropriate treatment without delay, including where necessary separation from the rest of the flock to allow treatment, rest and recuperation, or be humanely culled immediately. Where there are

signs of recurring injuries which may be related to the environment, such as trauma to wings, legs or keel bone, these must be investigated and the cause rectified as soon as possible.

47. Dead birds seen during an inspection should be removed from the house without delay and disposed of appropriately.
48. When any bird is culled this must be carried out using a permitted method in accordance with the relevant legislation and the procedures included in the health and welfare plan.

Welfare outcome assessments

49. Many recognised welfare standards are based on "inputs" carried out by the owner/keeper and staff, such as during daily management and husbandry procedures, or resources provided to the animals such as housing, feed and water. Many of these are defined as minimum standards in law and are covered throughout this Code.
50. The use of welfare outcomes can help the owner/keeper understand how these inputs directly affect individual birds and the flock as a whole. The assessments are designed to be practical and measurable, whilst having a scientific basis to demonstrate positive or negative welfare states in the birds.
51. In commercial systems the routine welfare outcome assessments to be carried out by the owner/keeper and staff should be agreed with a veterinary surgeon. Additional requirements may be specified through private schemes or retailer contracts. All agreed measures should be accurately detailed and recorded daily. Additional information from other rearing stages (for example, hatchery information and pullet rearing data) and from slaughterhouses at depopulation may provide further information on the health and welfare of the flocks.

52. Recommended welfare outcome assessments in laying hens include:

- a) Feather loss
- b) Bird dirtiness
- c) Antagonistic behaviours, including injurious and aggressive pecking
- d) Flightiness or fearfulness
- e) Number of birds requiring isolation / additional care
- f) Mortality

Specific health and welfare issues

Injurious pecking, aggressive pecking and feather loss

53. A key positive outcome for the flock is absence of injurious pecking. Every effort should be made to reduce injurious pecking so as to stop the need to beak trim as soon as reasonably possible. See also section on beak trimming, at paragraphs 100 to 105. However, beak trimming should not be ceased until the owner/keeper is confident that, under the current bird rearing, housing and management procedures, this will not result in significantly increased risk of injurious pecking.

54. Any sudden change in management, environment or disease (for example, red mite), i.e. a stressor, can precipitate an outbreak of injurious pecking. This includes gentle pecking (feather tip pecks, little reaction from the bird being pecked) through to severe feather pecking (forceful pecks, feather pulls, visible feather loss to back, vent, tail area, the bird being pecked may vocalise) and cannibalistic pecking (pecking of featherless skin following severe feather pecking leading to blood loss, infection, death). Vent pecking is a specific form of cannibalistic pecking that targets the vent area and can lead to the inner organs being pulled out; it can occur in fully feathered birds and a key risk time is onset of egg-laying.

55. Aggressive pecking is not the same as injurious pecking and is directed towards the head and neck of another bird. It includes fighting and chasing of other birds, which occurs as part of natural behaviour to establish dominance hierarchies or “pecking orders” within the flock and as a result of competition for resources. Vocalisation between birds during aggressive activity is common. If aggression levels are particularly high in a flock this can predispose to injurious pecking and cannibalism. The motivations for aggressive pecking are different to injurious pecking and may also be seen when management changes are made, so it is important that the owner/keeper takes time to observe the birds to understand the type of pecking occurring in the flock.

56. Owners/keepers should consider choosing strains with a reduced tendency to injurious pecking.

57. A bespoke action plan to reduce injurious pecking and thus the need to beak trim should form part of any health and welfare plan. This should be drawn up in consultation with a veterinary surgeon. It should detail specific management procedures and interventions from early rearing through to laying, to reduce the risk of injurious pecking occurring and the steps to be taken in the event of an outbreak. Feather scores should be recorded throughout flock life and outbreaks of injurious pecking recorded and investigated as to possible causes. Progress should be assessed on a flock by flock basis as part of the review of the plan, with the aim of continuous improvement.

58. Recommended strategies and interventions could include:

- a) Managing the transition from rearing to laying house by matching conditions as far as possible. This is a high risk period for stress and the onset of feather pecking

behaviour and the transition should be kept as smooth as possible. See also Section 2;

- b) Allowing the pullets immediate access to good quality, friable litter;
 - c) Giving the pullets in the laying unit early access to the range;
 - d) Encouraging use of the range by providing shelters near the house; increasing the amount and variety of vegetation; co-grazing with compatible non-avian species; and providing foraging opportunities and appropriate outside drinkers. See also paragraph 149;
 - e) Actively managing the range by keeping the area around the popholes clean and well drained, controlling predators and rotating pasture;
 - f) Maintaining good, deep, friable litter throughout the laying period to promote foraging and dustbathing activities;
 - g) Providing additional opportunities for foraging and dustbathing, such as straw or hay bales (entire to allow birds to pull them apart) or in hanging nets; a range of pecking objects and dustbathing boxes;
 - h) Minimising diet changes – where possible, mix old and new diets through any transition period. Avoid changing from high protein to low protein diets. Mash increases eating time compared to pellets and keeps the birds occupied;
 - i) Increasing insoluble fibre in diet – within the main diet or as an added forage, such as whole oats, wheat, corn, alfalfa, maize/ barley/pea, silage or carrots. However, ensure that methods of additional forage provision do not attract rodents;
 - j) Managing health and hygiene and maintaining effective disease control, for example, monitoring and controlling levels of red mite and worm burdens;
 - k) Reducing stress in the flock by developing good human-animal relationships, carrying out regular inspections and avoiding large contrasts in light, noise and temperature;
 - l) Inspecting birds more regularly than usual following any unusual or sudden change in management that is likely to increase stress levels, in order to detect any injurious pecking at the earliest opportunity, enabling steps to be taken to treat or cull injured birds;
 - m) Consider introducing additional perching opportunities in the vertical space in the building. Providing additional resting/ roosting options, appropriate for that shed, can allow submissive birds to avoid situations in which they might otherwise be pecked; and
 - n) Consider the provision of “verandas” or “winter gardens” as practical methods of reducing stocking densities. The natural lighting and extra space, as well as opportunities for further enrichment points, all help maintain bird welfare.
59. Once all management strategies are in place and good feather cover is achieved throughout lay for at least two consecutive flocks, stopping beak trimming in future flocks should be actively considered, in consultation with a veterinary surgeon and other appropriately qualified technical advisors.

Skeletal health

60. Skeletal health is an important aspect of the welfare of laying hens. Fractures can be a cause of pain and therefore poor welfare. They can occur during rearing or laying or during depopulation, transport or at the slaughterhouse.
61. The incidence of fractures is determined mainly by:
- i) the weakness of bones, including the susceptibility of keel bones to damage before and after ossification;
 - ii) the design of housing systems, during rearing and in lay, including space availability and enrichment provision (to improve bone

health through load-bearing exercise) and housing layout (optimised to reduce trauma caused by collisions with furniture and equipment); and

iii) handling, including at depopulation.

62. The keel bone (or sternum) is initially made of cartilage but ossifies at about 35 weeks of age. Before ossification, it may become twisted or otherwise deformed. It may be damaged or broken, for example, when the hen jumps or flies and collides with a perch or other equipment in the poultry house. Whilst bone strength alone may not be the sole cause of keel bone fracture, there is sufficient evidence that it is a major factor.

63. Suitable diet, housing design and careful handling contribute to optimising bone strength and reducing fracture risks. Owners/keepers of pullets and laying hens should follow the latest guidance on appropriate nutritional content of feed at different stages of rearing and laying to optimise bone strength throughout the bird's life. Load-bearing exercises provided by the ability to dustbathe and access perches (ideally from the early rearing period) encourage mobility and should improve bone strength. The hen will also benefit from walking, hopping, wing flapping and other exercise. Design and location of perches, tiers and ramps should be carefully considered in both pullet and laying houses to prevent collisions and falls.

64. If birds are detected with fractures on farm, they must be isolated where necessary and treated or culled promptly by a trained and competent person in accordance with the specific welfare at the time of killing legislation. Birds which are not considered fit for transport should be immediately culled on farm.

65. Owners/keepers should encourage end of lay hen processors to feedback information on fractures which should then be used to set targets in the health and welfare plan, to reduce the incidence of fractures. Any changes

in housing design, management, nutrition or catching and handling strategies at depopulation should be detailed in the plan, before the next flock of replacement pullets arrives.

Red mites

66. Red mites in low numbers cause irritation, making birds restless and prone to injurious pecking. Large numbers of mites can cause anaemia, pale comb and wattles, reduced egg production and progressive weakness until death. Younger birds and chicks are particularly susceptible to rapid anaemia and death. The red mite lifecycle from egg to adult can be as little as a week and once there is a problem in the flock it can be difficult to bring under control.

67. A clear monitoring and treatment protocol devised with a veterinary surgeon and defined in the health and welfare plan should be routinely carried out and records kept. See also paragraphs 112 to 117. Equipment and furnishings should be checked for mites; simple mite traps can be placed in the house in key areas to monitor levels. The comb, leg and breast skin of birds, including any found dead, should also be checked. A visible clumping of mites or blood spotting of eggs denotes a severe infestation.

Automatic or mechanical equipment

Paragraphs 18 to 21 of Schedule 1 to the Welfare of Farmed Animals (England) Regulations 2007 state:

18. All automated or mechanical equipment essential for the health and well-being of the animals must be inspected at least once a day to check that there is no defect in it.

19. Where defects in automated or mechanical equipment of the type referred to in paragraph 18 are discovered, these must be rectified immediately or, if this is impossible, appropriate steps must be taken to safeguard the health and well-being of the animals pending the rectification of those defects including the use of alternative methods of feeding and watering and methods of providing and maintaining a satisfactory environment.
20. Where the health and well-being of the animals is dependent on an artificial ventilation system –
- (a) provision must be made for an appropriate back-up system to guarantee sufficient air renewal to preserve the health and well-being of the animals in the event of failure of the system; and
 - (b) an alarm system (which will operate even if the principal electricity supply to it has failed) must be provided to give warning of any failure of the system.
21. The back-up system referred to in paragraph 20(a) must be thoroughly inspected and the alarm system referred to in paragraph 20(b) tested at least once every seven days in order to check that there is no defect, and, if any defect is found at any time, it must be rectified immediately.
68. All equipment and services, including feed hoppers, feed chain and delivery systems, drinkers, ventilating fans, heating and lighting units, fire extinguishers, generators, other energy backup systems and alarm systems, should be cleaned, inspected, tested and kept in good working order.

69. All automated equipment upon which the birds' welfare is dependent should incorporate a fail-safe or standby device and an alarm system to warn the owner/keeper of failure. Defects must be rectified immediately or other temporary measures taken (as described in the health and welfare plan) to safeguard the health and welfare of the birds until the problem has been rectified. Alternative ways of feeding and watering and of maintaining a satisfactory environment should therefore be ready for immediate use.
70. Ventilation, heating, lighting, feeding, drinker lines and all other equipment or electrical installation should be designed, sited and installed so as to avoid risk of injuring the birds. All electrical installations at mains voltage should be inaccessible to the birds and properly earthed.

Ventilation and temperature

Paragraph 13 of Schedule 1 to the Welfare of Farmed Animals (England) Regulations 2007 states:

13. Air circulation, dust levels, temperature, relative air humidity and gas concentrations must be kept within limits which are not harmful to the animals.

71. Environmental factors (temperature, humidity, ammonia, carbon dioxide, dust, bacteria and fungi) can directly impact on bird welfare, feed conversion, egg production (numbers, weight, shell quality), disease and mortality. The following table shows recommended values for some environmental parameters:

House temperature	17 - 25°C (adult layers) depending on system of production
Humidity	40 - 60% (up to 70 - 75% for short periods)
Light intensity	At least 10 lux (except nest boxes <1 lux)
Ammonia concentration	< 20 ppm
Carbon dioxide	< 3000 ppm

72. The ventilation system and facilities for storing and handling litter and manure should be designed, maintained and managed to prevent the exposure of birds to gases such as ammonia and carbon dioxide, in concentrations which cause discomfort to the birds or which are detrimental to their health. People vary in their ability to smell ammonia, however, if ammonia can be smelt, it is likely to be too high and suggests monitoring and action is required. Certain activities (for example, topping up litter and manure removal) within the layer house can increase dust and pathogen levels and clear protocols should be in place to reduce frequency of exposure to birds and staff to elevated levels.
73. Provision of insulation and ventilation should be designed to avoid heat and cold stress. Ventilation requirements should be detailed in the health and welfare plan and clear guidance should be provided for staff on actions, including monitoring, at different times of the year to help maintain appropriate temperatures and humidity in the housing. Where ventilation appears to be causing health and welfare issues, expert advice should be sought.
74. Particular care should be taken to protect hens vulnerable to cold stress, such as those with feather loss, from draughts in cold conditions. Visible evidence of cold stress in the housing environment is huddling of groups of birds

together for prolonged periods, in the warmest areas of the house (or the cage). Huddling is a normal response to cold temperatures but prolonged huddling indicates the temperature is not comfortable in the long term for the flock.

75. Laying hens towards the end of lay are more likely to suffer cold stress, particularly if they have high feather loss in cold, wet weather conditions. End of lay hens' fitness to transport for the intended journey should be considered carefully when feather loss is high and body condition is poor during cold wet weather, particularly when a recent increase in flock mortality beyond the expected levels has occurred.
76. Birds should not be exposed to persistently strong, direct sunlight or hot, humid conditions which can cause heat stress. Heat stress is indicated by any form of panting observed within the flock, typically during summer months. Birds will be less motivated to move and feed, will sit upright with beaks open and will make visible respiratory movements. During periods of hot weather attention should be paid to air throughput, distribution and air speed at bird level.
77. Where birds do not have a choice of environment, for example, to access a range, then it is important to maintain the environment within the main housing such that the birds can maintain their normal body temperature without resorting to the need to pant or huddle.

Lighting

Paragraphs 14 to 16 of Schedule 1 to the Welfare of Farmed Animals (England) Regulations 2007 state:

14. Animals kept in buildings must not be kept in permanent darkness.

15. Where the natural light available in a building is insufficient to meet the physiological or ethological needs of any animals being kept in it, appropriate artificial lighting must be provided.
16. Animals kept in buildings must not be kept without an appropriate period of rest from artificial lighting.

Paragraph 3 of Schedule 5 to the Welfare of Farmed Animals (England) Regulations 2007 states:

- 3 (1) All buildings must have light levels sufficient to allow hens to see other hens and be seen clearly, to investigate their surroundings visually and to show normal levels of activity.

(2) Where there is natural light, light apertures must be arranged in such a way that light is distributed evenly within the accommodation.

(3) After the first days of conditioning, the lighting regime must be such as to prevent health and behavioural problems and accordingly it must follow a 24-hour rhythm and include an adequate uninterrupted period of darkness lasting, by way of indication, about one third of the day.

(4) A period of twilight of sufficient duration should if possible be provided when the light is dimmed so that the hens may settle down without disturbance or injury.

78. In normal conditions, in all systems, light intensity should be at least 10 lux, measured at any feed trough level. Whilst reduction in lighting level may assist in addressing behavioural problems such as injurious feather pecking or cannibalism, this may reflect a response to the change in light intensity from “normal” (for that flock) rather than the actual lux level of the lighting intensity itself. Hens perceive incandescent lighting at higher intensities than fluorescent lighting, so care should be taken when changing between lighting source types.
79. Birds, when given the choice, will move between different light intensities through the day. However, in cage systems, measures should be taken to ensure that light distribution is as even as possible, other than in the nest area which should, where possible, be much lower (<1 lux).
80. A period of twilight (between 1 and 5 lux) should be provided to give time for laying hens to adjust to changing light and dark patterns and give them time to roost.

Litter

Laying hens in non-cage systems

Paragraph 2 of Schedule 2 to the Welfare of Farmed Animals (England) Regulations 2007 states:

2. All systems must be equipped in such a way that all laying hens have—

(e) at least 250 cm² of littered area per hen, the litter occupying at least one third of the ground surface.

Laying hens in enriched cages

Paragraph 2 of Schedule 4 to the Welfare of Farmed Animals (England) Regulations 2007 states:

2. Laying hens must have—

(c) litter such that pecking and scratching are possible.

81. The litter material should be of an appropriate quality, suitable for providing dry dustbathing or scratching material and must not contain anything that could be toxic or cause injury to the hens. Litter must be friable (loose) and should be dry on the surface.
82. Litter should be inspected frequently for signs of mould or infestation, especially under drinkers or near the walls, and appropriate action should be taken to rectify any problem. Litter should also be inspected to ensure it does not become capped, wet or excessively dusty.
83. In non-cage systems, all hens must have access to a littered area, which must be maintained in a friable condition. Average depth of litter should be at least 5 cm during nest box training and approximately 10 cm after nest box training is complete. Hens should have access to good quality substrate to allow expression of natural behaviours, including dustbathing and scratching, and to prevent health and welfare problems. Dustbathing is a social activity and therefore there should be sufficient good quality litter available to perform dustbathing as a group activity, but without being disturbed by other birds performing other activities. If no or only single birds are seen dustbathing this may suggest insufficient space or litter quality issues.

84. Leakage or spillage from drinkers can have a negative impact on litter quality. Drinkers should be well maintained and positioned at an appropriate height for all birds. The water pressure should be checked frequently to ensure there is no leakage. Drinkers should be descaled frequently (between flocks) to overcome issues of leakage. Leaks should be fixed as soon as possible. Litter replacement may be necessary in the short term in badly affected areas, in conjunction with raised ventilation and temperatures to remove large amounts of excess moisture. However, long term solutions should be found and specialist advice should be sought where appropriate.

Noise

Paragraph 2 of Schedule 5 to the Welfare of Farmed Animals (England) Regulations 2007 states:

2. In all systems in which laying hens are kept—
- (a) the sound level must be minimised;
 - (b) constant or sudden noise must be avoided; and
 - (c) ventilation fans, feeding machinery and other equipment must be constructed, placed, operated and maintained in such a way that they cause the least possible noise.

85. When designing houses or installing new equipment, the noise levels should be checked and, where necessary, appropriate sound proofing should be installed to achieve acceptable levels before birds are placed. All

equipment in regular use, such as ventilation, feeding equipment and back-up generators, should be assessed for noise levels as part of the regular checks and maintenance detailed in the health and welfare plan.

86. Any repairs or renovations requiring the use of noisy equipment should ideally be carried out between flocks, but if not, they should be performed during the birds' normal waking hours and the sounds introduced in such a way that causes minimum startle and smother risk to the birds.

Feed and water

All laying hens

Paragraphs 22 to 27 of Schedule 1 to the Welfare of Farmed Animals (England) Regulations 2007 state:

22. Animals must be fed a wholesome diet which is appropriate to their age and species and which is fed to them in sufficient quantity to maintain them in good health, to satisfy their nutritional needs and to promote a positive state of well-being.
23. Animals must not be provided with food or liquid that contains any substance that may cause them unnecessary suffering or injury and must be provided with food and liquid in a manner that does not cause them unnecessary suffering or injury.
24. All animals must have access to feed at intervals appropriate to their physiological needs (and, in any case, at least once a day), except where a veterinary surgeon acting in the exercise of his profession otherwise directs.

25. All animals must either have access to a suitable water supply and be provided with an adequate supply of fresh drinking water each day, or be able to satisfy their fluid intake needs by other means.
26. Feeding and watering equipment must be designed, constructed, placed and maintained so that contamination of food and water and the harmful effects of competition between animals are minimised.
- 27 (1) No other substance, with the exception of those given for therapeutic or prophylactic purposes or for the purpose of zootechnical treatment, may be administered to animals unless it has been demonstrated by scientific studies of animal welfare or established practice that the effect of that substance is not detrimental to the health or welfare of the animals.

Laying hens in non-cage systems

Paragraphs 2(a) and (b) of Schedule 2 to the Welfare of Farmed Animals (England) Regulations 2007 state:

2. All systems must be equipped in such a way that all laying hens have -
- (a) linear feeders providing at least 10cm per bird or circular feeders providing at least 4cm per bird;
- (b) continuous drinking troughs providing at least 2.5 cm per hen or circular drinking troughs providing at least 1cm per hen.

Paragraphs 3 and 4 of Schedule 2 to the Welfare of Farmed Animals (England) Regulations 2007 state:

3. Where a system is equipped with nipple drinkers or cups, there must be at least one nipple drinker or cup for every 10 hens.
4. Where a system has drinking points plumbed in, at least two cups or two nipple drinkers must be within reach of each hen.

Laying hens in enriched cages

Paragraphs 3 and 4 of Schedule 4 to the Welfare of Farmed Animals (England) Regulations 2007 state:

3. A feed trough which can be used without restriction must be provided, the length of which must be at least 12 cm multiplied by the number of hens in the cage.
4. Each cage must have a drinking system appropriate to the size of the group; where nipple drinkers are provided, at least two nipple drinkers or two cups must be within reach of each hen.

87. Feed and water must be readily accessible to all hens.

88. Feeding and watering equipment should be designed, constructed, placed, operated and maintained in such a way that:

- a) it minimises spillage or contamination of feed and water;
- b) all laying hens have sufficient access to water and feed;

- c) it does not cause or result in injury to hens;
- d) it operates in all weather conditions;
- e) the consumption of water and feed can be monitored; and
- f) when appropriate outdoor facilities are used, they can be easily removed or turned off in disease control situations.

In addition, all equipment must be able to be easily and effectively cleaned and disinfected.

89. Feeder space allocation should be sufficient to enable the hens to obtain adequate feed with the minimum of competition. If feed is not provided continuously, additional trough space may be needed to allow all hens to eat at the same time.

90. Sudden changes in the type or quantity of feed and feeding procedures, other than those appropriate to the physiological needs of the laying hens, should be avoided except in case of emergency. Feed mash can help to increase the time spent eating and reduce the risk of injurious pecking. Owners/keepers should ensure, with the appropriate expert nutritional and veterinary advice, that the hens' feed has the appropriate balance of amino acids and level of sodium and take particular care with gradually reducing the protein content of any diet. Birds should have regular access to insoluble grit from an early age, to help develop the digestive system and to aid good digestion throughout the birds' lives.

91. Where practical, a small amount of whole grain, pellets or grit should be scattered over the indoor scratching area each day to encourage foraging and scratching and reduce the likelihood of injurious pecking.

92. Stale or contaminated feed or water should not be allowed to accumulate and should be replaced immediately.

93. Body condition, body weight and egg quality and production should be used to monitor the effectiveness of the feeding regime.
94. Daily access to fresh water throughout the period of lighting and a sufficient number of drinkers, correctly maintained, well distributed and adjusted for height and pressure, should be provided. In longer poultry houses and in those with greater floor slopes, water pressure regulators should be provided if spillage or leakage is considered a problem.
95. Where possible, water meters should be fitted to each house to enable daily monitoring of water usage. A water meter is a useful management tool; daily records of water consumption provide an early warning of potential problems.
96. Arrangements should be made in advance to ensure that adequate supplies of suitable feed and water can be made available in emergencies such as interruptions in power supplies, or when water freezes.
97. Systems which call for the complete withholding of feed and water on any day must not be adopted. In no circumstances may hens be induced to moult by withholding feed and water. However, feed, but not water, may be withheld for up to 12 hours before expected slaughter time. See also paragraph 122.

Mutilations

Section 5 of the Animal Welfare Act 2006 states:

- 5 (1) A person commits an offence if–
- (a) he carries out a prohibited procedure on a protected animal;

- (b) he causes such a procedure to be carried out on such an animal.

(2) A person commits an offence if–

- (a) he is responsible for an animal,
- (b) another person carries out a prohibited procedure on the animal, and
- (c) he permitted that to happen or failed to take such steps (whether by way of supervising the other person or otherwise) as were reasonable in all the circumstances to prevent that happening.

(3) References in this section to the carrying out of a prohibited procedure on an animal are to the carrying out of a procedure which involves interference with the sensitive tissues or bone structure of the animal, otherwise than for the purpose of its medical treatment.

(4) Subsections (1) and (2) do not apply in such circumstances as the appropriate national authority may specify by regulations.

98. All mutilations of laying hens are banned under the Animal Welfare Act 2006; certain procedures (see Annex 2) are excluded from this ban under the Mutilations (Permitted Procedures) (England) Regulations 2007, provided that they are carried out by a person permitted to carry out the procedure and:

- a) in accordance with the relevant requirements in the Schedules;

- b) in such a way as to minimise the pain and suffering it causes to the animal;
- c) in hygienic conditions; and
- d) in accordance with good practice.

99. Mutilations can cause pain to hens and should only be carried out where necessary to avoid a worse welfare outcome. They should only be applied having sought appropriate advice on possible alternative interventions in each case and not as a routine practice.

Beak trimming

Paragraph 5 (1) to (5) of Schedule 4 to the Mutilations (Permitted Procedures) (England) Regulations 2007 states:

- 5
- (1) For all poultry, the beak trimming procedure must be performed using a suitable instrument.
 - (2) For all poultry, any subsequent haemorrhage from the beak must be arrested by cauterisation.
 - (3) For all poultry the procedure must be performed on –
 - (a) both the upper and lower beaks, with not more than one third of each removed, or
 - (b) the upper beak only, with not more than one third removed.
 - (4) For laying hens and chicks that are intended to become laying hens, which are kept on establishments with 350 or more such birds, beak trimming–

- (a) may only be performed in order to prevent feather pecking or cannibalism;
- (b) may only be carried out using infra-red technology;
- (c) may not be performed on birds which are aged 10 days or over; and
- (d) must be carried out by a person who has been provided with suitable and sufficient information, instruction and training so that they are qualified to perform the procedure.

- (5) Sub-paragraphs (4)(b) and (c) do not apply where the procedure is carried out in an emergency in order to control an outbreak of feather pecking or cannibalism.

100. The aim is for routine beak trimming to stop as soon as reasonably possible. To achieve this, every effort is needed by owners/keepers to reduce injurious pecking in their flocks.

101. Beak trimming is permitted on birds up to 10 days old using infra-red technology, for the purposes of reducing injurious pecking only. In practice, it is carried out at day-old in the hatchery. Beak trimming should be carried out to the highest possible standards by trained operators.

102. Infra-red beak treatment equipment should be monitored to ensure effectiveness of treatment, in terms of beak length and chick welfare. Any concerns about the effectiveness of treatment should be referred back to the hatchery. Equipment should be well maintained and calibrated.

103. Owners/keepers should have an action plan to tackle injurious pecking, including management strategies and interventions to reduce the risk of injurious pecking. See also paragraphs 53 to 58.
104. Once all management strategies are in place and good feather cover is achieved throughout lay for at least two consecutive flocks, stopping beak trimming in future flocks should be actively considered, in consultation with a veterinary surgeon and other appropriately qualified technical advisors.
105. If an outbreak of injurious pecking does occur it should be tackled immediately by appropriate changes in the system of management. As a last resort, only when all other intervention strategies have been attempted, emergency beak trimming can be carried out on veterinary advice, by trained and competent operators, using appropriate equipment.

Breeding procedures

Paragraphs 28 and 29 of Schedule 1 to the Welfare of Farmed Animals (England) Regulations 2007 state:

- 28 (1) Natural or artificial breeding or breeding procedures which cause, or are likely to cause, suffering or injury to any of the animals concerned, must not be practised.
- (2) Sub-paragraph (1) does not preclude the use of natural or artificial breeding procedures that are likely to cause minimal or momentary suffering or injury or that might necessitate interventions which would not cause lasting injury.

29. Animals may only be kept for farming purposes if it can reasonably be expected, on the basis of their genotype or phenotype, that they can be kept without any detrimental effect on their health or welfare.

106. Birds should come from balanced breeding programmes promoting and protecting health, welfare and productivity goals simultaneously. Identification of birds should be encouraged, to enable future feedback of information within the breeding pyramid and better application of breeding for welfare, based on data from the supply chain.
107. The presence of males in a layer breeder flock should reduce stress and fear responses due to the natural instinct for males to protect their females. However, too high a number of males in the flock can lead to sexual aggression and increased stress in the flock which can have negative impacts on welfare and health, including egg production. When producing hatching eggs from breeding birds, different bird strains will require a different cockerel to hen ratio. This is due to genetic differences in docility and sexual activity. Breeder suppliers should ensure they provide guidance on appropriate sex ratios, which ensure the production of sufficient fertilised eggs whilst minimising aggressive breeding behaviour.
108. Cockerel body condition should be assessed regularly throughout the laying cycle. Growth rates should follow the breeder growth recommendations provided by the supplier, because sperm production will be impacted if they grow too fast or if they lose body condition. Cockerels found in poor body condition should be removed and given additional feed, returning to the flock after being rested for a few weeks and when body condition has improved.

109. Cockerels displaying highly aggressive pecking or unacceptable behaviours, for example, repeatedly chasing and targeting the same hen for mating, may need to be temporarily removed from the flock. If unacceptable behaviour continues when the cockerel is returned, it should be humanely culled.

110. Husbandry measures and practices on the breeding farm should be designed to minimise floor eggs and heavily soiled eggs should not be sent as hatching eggs. Littered nests are preferred by breeding females and may reduce the number of floor eggs if litter substrate is placed in a nest, whatever the base type.

111. Surplus chicks and in-shell embryos, including in hatchery waste, must be culled humanely by a trained and competent person and in accordance with the specific welfare at the time of killing legislation.

Responsible medicines usage and record keeping

Paragraphs 7 and 8 of Schedule 1 to the Welfare of Farmed Animals (England) Regulations 2007 state:

7. A record must be maintained of –

- (a) any medical treatment given to animals; and
- (b) the number of mortalities found on each inspection of animals carried out in accordance with any of the following provisions –
 - (i) in the case of laying hens, paragraph 1 of Schedule 5.

8. The record referred to in paragraph 7 must be retained for a period of at least three years from the date on which the medical treatment was given, or the date of the inspection, and must be made available to an inspector on request.

112. Authorised veterinary medicinal products should be used for the animals specified and should be administered according to the manufacturer's instructions. Where additional instructions are required, these must be given by a veterinary surgeon.

113. In certain instances a veterinary surgeon can prescribe medicines that are not intended for the specific condition and species for which the product is authorised. This can only be done if there is no alternative authorised medicine available. Products used would need to comply with the law. See Annex 1. Further information on the 'cascade' system and prescribing unauthorised medicines is available from Defra's Veterinary Medicines Directorate.

114. Under welfare legislation, records must be kept for at least three years. Further requirements for medicines records are required under additional legislation for food producing animals. See Annex 1.

115. The medicines records must be available for a government or local authority inspector to review at any time.

116. Records are an essential aid to management. The records kept should include feed and water consumption, egg quality, results of health and welfare checks, behavioural abnormalities, air temperature, air quality and results of welfare outcome assessments.

117. Mortality, culling (including reason for culling) and, if possible, daily morbidity levels in the case of a disease outbreak should be closely monitored. Post mortems should be carried out in cases where mortality levels are significantly higher than breeders' targets. Records should be kept.

Catching and handling

118. There are detailed rules relating to the transport and movement of poultry to and from the farm which are covered by different pieces of legislation. See Annex 1. Owners/keepers should be familiar with these legal requirements, including any restrictions and licensing requirements associated with movements of both birds and eggs during notifiable disease outbreaks.

119. Legal responsibility for bird welfare throughout any transport process is set out in welfare in transport legislation. Birds with severe and/or painful conditions are unfit for transport. Any birds remaining on farm, which cannot be transported, should be humanely culled by a trained and competent person and in accordance with the specific welfare at the time of killing legislation.

120. Catching and handling should be carried out quietly and confidently exercising care to avoid unnecessary struggling which could bruise or otherwise injure the birds. This requires skill and it should only be undertaken by competent persons, i.e. those who have been appropriately trained for the task and have received clear guidance and instructions from the owner/keeper.

121. Birds should not be deprived of feed or water before transport. Feed and water must be made available for any journey lasting longer than 12 hours, disregarding loading and unloading time. Specific rules apply to birds under 72 hours of age.

122. Feed, but not water, may be withheld for up to 12 hours, prior to slaughter of end of lay hens and breeding birds. There should be coordination with the slaughterhouse in order to limit the time hens are held in containers before and after transport, and to advise of any breakdowns.

123. Before de-populating layer and breeder houses, any hindrance from fixtures and fittings, especially sharp edges and protrusions, must be removed. Care must be taken throughout the process of catching hens in order to avoid panic and subsequent injury to and smothering of the birds, for example, by reducing the intensity of the light or using a blue or red light.

124. When catching laying hens in cages, they must be removed from the cage singly to avoid injury or suffering and must be held by both legs. The breast should be supported during removal from the cage. Hens in non-cage systems, must also be caught and held by both legs. In all systems, hens should only be carried by both legs and care should be taken to avoid hitting solid objects particularly if wings are flapping. They must not be carried by their wings, head, tail or neck. The number of hens carried will depend upon the size of the hen and the ability of the carrier, but a maximum of three per hand must not be exceeded. Distances which hens are carried should be minimised as far as possible, for example, by bringing transport containers as close as possible to the hens.

125. Transport containers with large openings should be used for pullets and hens to avoid damage to the birds; the design, size and state of repair of any container used to carry birds must allow them to be put in, conveyed and taken out without injury. The condition of crates should be checked and, where broken crates are identified, they must not be used. Care should also be taken when crates are loaded onto vehicles, and in their transportation and unloading, to avoid physically shocking the birds.

126. During the time birds are held in the containers prior to and after transport they should be protected from bad weather and excessively hot or cold conditions. Birds should not be allowed to become heat stressed (as indicated by prolonged panting) by being left in containers exposed to strong direct sunlight, nor should they be exposed to cold stress due to inadequate protection from rain and high winds. Adequate ventilation for the hens is essential at all times.

Housing: General requirements

Paragraphs 11 and 12 of Schedule 1 to the Welfare of Farmed Animals (England) Regulations 2007 state:

11. Materials used for the construction of accommodation, and in particular for the construction of pens, cages, stalls and equipment with which the animals may come into contact, must not be harmful to them and must be capable of being thoroughly cleaned and disinfected.
12. Accommodation and fittings for securing animals must be constructed and maintained so that there are no sharp edges or protrusions likely to cause injury to them.

Paragraph 5 of Schedule 5 to the Welfare of Farmed Animals (England) Regulations 2007 states:

5. Cages must be suitably equipped to prevent hens escaping.

Paragraph 7 of Schedule 5 to the Welfare of Farmed Animals (England) Regulations 2007 states:

7. The design and dimensions of the cage door must be such that an adult hen can be removed without undergoing unnecessary suffering or sustaining injury.

127. When new accommodation for laying hens is planned, a suitable site should be selected taking into consideration the risks from outside environmental factors such as noise, light, vibration, flooding, atmospheric pollution, predators and disease risks. See also paragraph 24. Where appropriate, advantage should be taken of natural features to provide shelter and to protect birds from predators, rodents and other animals.
128. The design, construction and maintenance of enclosures, buildings and equipment for laying hens should be such that they:
 - a) allow the fulfilment of essential biological needs and the maintenance of good health;
 - b) facilitate good management of the hens and ease of routine inspection of all areas;
 - c) allow for easy maintenance of good conditions of hygiene and air quality;
 - d) provide shelter from adverse weather conditions;
 - e) limit the risk of disease, disorders manifested by behavioural changes, traumatic injuries to the hens, injuries caused by hens to each other and, as far as possible, contamination of the hens by droppings;

- f) exclude predators, rodents, and wild animals and minimise insects;
 - g) allow for the prevention and treatment of infestations of internal and external parasites;
 - h) incorporate damp-proof membranes to prevent insulation breakdown and measures to prevent easy access by vermin to the insulation material; and
 - i) provide sufficient suitable lighting to enable normal behaviour.
129. Floors and perches should be of a suitable design and material that are comfortable and do not cause pain, distress or injury to the hens. They should provide sufficient support, particularly for the forward facing toes and claws of each foot. Perches should be of sufficient length to allow for the possibility of all hens roosting at the same time. The perch should be of the correct diameter to permit the bird to grasp it. Floors and perches should be kept sufficiently dry and clean.
130. Nests must be a separate space for egg laying and the floor component of which may not include wire mesh which can come into contact with the birds. Floor substrates provided in the nest area should create an environment which encourages nesting (pre-laying) behaviour.
131. Nests should be secluded, clearly separated from other areas and draught free, allowing laying hens to isolate themselves from those carrying out other activities. Feeding tracks or other installations should not be located in or accessed via the nesting area. Where curtains are used to create seclusion, these should be long enough to prevent interactions between nesting and non-nesting hens and to create a lower light intensity in the nesting area. Birds prefer very low lighting of less than 1 lux for nesting and so nest design and location should attempt to reflect these lower lighting needs.
132. Individual nests should be designed to accommodate only one hen at a time. The nests should be easily accessible by all birds and the location should not increase the risk of collision injury on entry or exit.
133. As birds are attracted to dark areas for nesting, they can be discouraged from nesting on the floor and under multi-tier sections by raising the light levels in these areas.
134. Hens should be kept in such a way that they can keep themselves clean.
135. Ventilation, heating, lighting, feeding, watering and all other equipment should be designed, sited, installed and monitored to avoid risk of injuring hens.

Stocking density and freedom of movement

All laying hens

Paragraphs 9 and 10 of Schedule 1 to the Welfare of Farmed Animals (England) Regulations 2007 state:

- 9. The freedom of movement of animals, having regard to their species and in accordance with good practice and scientific knowledge, must not be restricted in such a way as to cause them unnecessary suffering or injury.
- 10. Where animals are continuously or regularly tethered or confined, they must be given the space appropriate to their physiological and ethological needs in accordance with good practice and scientific knowledge.

Laying hens in non-cage systems

Paragraph 8 of Schedule 2 to the Welfare of Farmed Animals (England) Regulations 2007 states:

8. The stocking density must not exceed nine laying hens per m² of usable area.

Laying hens in enriched cages

Paragraph 2 of Schedule 4 to the Welfare of Farmed Animals (England) Regulations 2007 states:

2. Laying hens must have—
 - (a) at least 750 cm² of cage area per hen, 600 cm² of which must be usable; the height of the cage other than that above the usable area must be at least 20 cm at every point and the minimum total area for any cage must be 2000 cm².

136. When determining the stocking density, consideration should be given to breed of laying hen, system of housing, colony size, temperature, ventilation and lighting, as well as to the number of perching structures and welfare outcomes of the previous flock.

137. Bird numbers may need to be reduced in an emergency situation such as heat stress. See also paragraph 33. Planned bird numbers for future flocks may need to be reduced where historical evidence shows ventilation is insufficient to meet environmental requirements, for example, managing temperature, ammonia levels and litter condition.

Environmental enrichment

138. Environmental enrichment can improve bird health and welfare during rearing and in lay, by reducing disturbances, aggression, injurious pecking, fear responses and stress. It can also improve bone strength by increasing the level of physical exercise. The aim of different enrichment materials is to:

- ei) Increase the amount of time the birds spend actively standing, walking, running, jumping and dustbathing;
- ej) Increase normal foraging behaviours, providing the opportunity to seek and peck at other materials in their environment, thus reducing the risk of injurious pecking directed towards other birds; and
- ek) Reduce the number of aggressive interactions between birds and creating environments in which birds can escape from confrontation and find safe refuges.

139. Effective enrichment can include:

- a) straw and shaving bales to jump on, to create low barriers and partitions within larger spaces and to provide a substrate to peck at;
- b) perches and platforms at different levels to support different behavioural uses during the day and night, including refuge from other birds;
- c) novel food for pecking. See also paragraph 58 i);
- d) pecking blocks – some may incorporate nutritive value or beak blunting effects;
- e) a range of pecking objects;
- f) dustbathing boxes; and

- g) “verandas” or “winter gardens” to provide additional space, litter and access to natural daylight in housing systems where range access is not available or may be restricted for periods of time.

Non-cage systems: additional housing requirements

Paragraph 2 of Schedule 2 to the Welfare of Farmed Animals (England) Regulations 2007 states:

- 2. All systems must be equipped in such a way that all laying hens have-
 - (c) at least one nest for every seven hens and, if group nests are used, there must be at least 1m² of nest space for a maximum of 120 hens;
 - (d) perches without sharp edges and providing at least 15 cm per hen, which must not be mounted above the litter, and the horizontal distance between perches must be at least 30 cm and the horizontal distance between the perch and the wall must be at least 20 cm; and
 - (e) at least 250 cm² of littered area per hen, the litter occupying at least one third of the ground surface.

Paragraphs 5 and 6 of Schedule 2 to the Welfare of Farmed Animals (England) Regulations 2007 state:

- 5. The floors of installations must be constructed so as to support each of the forward-facing claws of each bird's foot.

- 6. If systems are used where the laying hens can move freely between different levels-

- (a) there must be no more than four levels;
- (b) the headroom between the levels must be at least 45 cm;
- (c) the drinking and feeding facilities must be distributed in such a way as to provide equal access for all hens; and
- (d) the levels must be so arranged as to prevent droppings falling on the levels below.

- 140. Usable area may be made up of the ground surface of the building where accessible to the hens and any additional raised areas or platforms at least 30 cm wide, including perforated floors provided that arrangements are in place to prevent fouling of hens below.
- 141. Perches must be 30 cm or more apart to be calculated as part of the perching space, although more perches may be provided adjacent to one another to make a perforated floor. Perforated floors can be considered as perching space when they have perches incorporated within the floor structure or attached on top of the floor surface. Birds perching on inappropriate structures, such as the edge of feed troughs, can result in foot damage and prevent other birds from accessing feed. Where this behaviour is seen, the provision of additional raised perches should be considered.
- 142. There must be a sufficient gap on either side of any perch to allow the hens to grip the perches without risk of trapping their claws. If foot condition is poor, the design, location and quantity of perches should be reviewed.

143. Multi-tier systems with perforated platforms should have dropping belts or trays beneath. Perches must not be positioned over the litter area.
144. Even where ramps or platforms and/or alighting rails are provided, nests, roosting areas, perches and tiers should not be so high above floor level that birds have difficulty in using them or risk injury.
145. Electric wires used to discourage laying in corners and smothering must never be placed in front of popholes and other access points to the range at any stage of rearing or laying for free range birds. Any electrified wire, whether insulated or otherwise, should be routed above the popholes.

Free range systems: additional housing requirements

Paragraph 17 of Schedule 1 to the Welfare of Farmed Animals (England) Regulations 2007 states:

17. Animals not kept in buildings must, where necessary and possible, be given protection from adverse weather conditions, predators and risks to their health and must, at all times, have access to a well-drained lying area.

Paragraph 7 of Schedule 2 to the Welfare of Farmed Animals (England) Regulations 2007 states:

7. If laying hens have access to open runs—
- (a) there must be several popholes giving direct access to the outer area, at

least 35 cm high and 40 cm wide, and extending along the entire length of the building; and in any case, a total opening of 2 m must be available per group of 1,000 hens; and

- (b) the open runs must be—
 - (i) of an area appropriate to the stocking density and to the nature of the ground, in order to prevent any contamination; and
 - (ii) equipped with shelter from adverse weather conditions and predators and, if necessary, drinking troughs.

146. Factors such as soil type, drainage, size of flock and frequency of pasture rotation are very important in deciding the number of laying hens that a particular area can carry. Heavy, poorly drained soil can carry fewer hens than land that is light and well drained.
147. Birds must have direct access to the range. They should be encouraged to use the outdoor area through easily and directly accessible popholes from the building. The height of the pophole exit should not discourage use or risk injury to the birds. All ramps providing pophole access should be of a sufficiently low gradient that birds will not be deterred from their use on either exit or re-entry.
148. Increasing the amount and variety of natural cover, shelter and shade on the range, such as trees, hedgerows and shrubs, can promote and maximise range use, which in turn can help to reduce injurious pecking. There can be other benefits to providing tree cover, such as improved egg quality, reduced water runoff, less soil compaction and a reduction in ammonia

emissions. Tree cover should be available close to the housing as hens are reluctant to cross open ground.

149. Birds should never be fed or watered outdoors in open troughs or by scattering feed on the ground. Feed and water provided outside should be covered and inaccessible to wild birds, rodents or other animals.
150. If ponds are located on or near to the range, they should be fenced off and/or netted to discourage wild birds, in particular water fowl.
151. Sufficient housing should be available to the birds at all times. It may be necessary to exclude birds from the range in bad weather or during a notifiable disease outbreak/risk if there is a danger that their welfare will otherwise be compromised. Natural or artificial windbreaks should be provided on exposed land. Precautions should be taken to protect hens against predators.
152. Land on which free range birds are kept for prolonged periods may become “fowl sick”, i.e. contaminated with organisms which cause or carry disease to an extent which could seriously prejudice the health of the birds on the land. Birds should be routinely monitored to check for signs indicative of a build-up of pathogens on the land and appropriate action taken.
153. The time taken for land to become fowl sick depends on the type of land and stocking density. Appropriate measures should be taken to prevent fowl sickness or to provide a new ranging area by moving the housing (in the case of portable units) or by rotating the ranging area outside fixed buildings. Unless the house is moved frequently, it is good practice to protect the ground immediately adjacent to it, for example, by providing slatted or wire mesh platforms, covered “verandas” or “winter gardens” or areas of gravel.

Enriched cage systems: additional housing requirements

Schedule 4 to the Welfare of Farmed Animals (England) Regulations 2007 states:

1. All laying hens not kept in a cage system referred to in Schedule 3 must be kept in an enriched cage system which complies with the requirements of this Schedule.
2. Laying hens must have—
 - (a) at least 750 cm² of cage area per hen, 600 cm² of which must be usable; the height of the cage other than that above the usable area must be at least 20 cm at every point and the minimum total area for any cage must be 2000 cm²;
 - (b) access to a nest;
 - (c) litter such that pecking and scratching are possible; and
 - (d) appropriate perches allowing at least 15 cm per hen.
3. A feed trough which can be used without restriction must be provided, the length of which must be at least 12 cm multiplied by the number of hens in the cage.
4. Each cage must have a drinking system appropriate to the size of the group; where nipple drinkers are provided, at least two nipple drinkers or two cups must be within reach of each hen.
5. To facilitate inspection, installation and depopulation of hens there must be a minimum aisle width of 90 cm between tiers of cages and a space of at least 35 cm must be allowed between the floor of the building and the bottom tier of cages.
6. Cages must be fitted with suitable claw-shortening devices.

154. If there is evidence that claws of hens are overgrown or broken, the provision of claw shortening devices should be improved. Excessively abrasive devices may cause injury so caution should be exercised in use of such devices. Assessment of claw length should be included in regular welfare outcome assessments and detailed in the health and welfare plan. See also paragraphs 16 to 20.
155. The aisle width should be measured as the unobstructed width between the outer edges of the feed troughs. The distance to the floor should be measured to the mesh base of the cage.

Section 2:

Recommendations applying to day-old chicks and pullet rearing

156. The environment in which pullets are reared should be matched, as far as possible, to that in which they will live as adults, for example, having similar perch and ramp provision or being reared in multi-tiered if that is the system in which they will be housed as adults. Early life experiences for the individual and the flock as a whole can affect their foraging and pecking behaviour, as well as how they respond to changes or stresses throughout their laying life. Providing increased opportunities for exercise during rearing increases bone strength. See also paragraphs 60 to 63.
157. Chicks start to peck and learn about appropriate food and pecking substrates during the first 24 hours of life. Consideration should be given to providing chicks with both food substrate and water (for example, through the provision of a gel block) as soon as possible after hatching; chicks should not be expected to rely on the egg yolk sac remnants as the sole source of nutrition.

Brooding (0-6 weeks)

158. Chicks are particularly susceptible to heat stress or chilling in their first few weeks of life. The building should be pre-heated for at least a day before litter is placed prior to chick arrival and the litter must be friable and should be dry.
159. The majority of chicks will arrive on the farm as day-old chicks. They need to be provided with additional heat and easy access to water and feed sources. It is important for the chick to learn quickly where feed and water sources are located.
160. The provision of dark brooders (horizontal heat sources with curtains) may improve welfare by providing the opportunity for the young chick to choose the light and temperature to which it is exposed. The chicks under the dark brooders should be inspected frequently.

Pullet rearing environment

161. The provision of enrichment during the rearing period may reduce the risk of developing abnormal and injurious behaviours during the production phase. For example, lack of experience with foraging or dustbathing material may result in ground pecks being redirected to the feathers of other laying hens in the flock. The provision of an enriched environment during the rearing period can help to ensure hens develop and transition well into an enriched laying environment.
162. Pullets should be provided with perches from 7 days of age at the latest and throughout rearing as this results in fewer broken back claws, improved bone mineral content, and improved bone strength in adult hens.
163. The intensity of the light during the light period should never be below 10 lux to allow proper inspection of birds and to avoid abnormal growth of the birds.
164. The maximum stocking density for pullets at the age of 16 weeks should be 20 kg/m² of total usable area in both floor and multi-tier rearing systems. In addition, it is recommended that, when calculated at floor level, stocking density should not exceed 33 kg/m² at 16 weeks in multi-tier systems. Increasing space allowance during rearing allows for greater movement and more opportunities for exercise, which can improve muscle and bone growth in laying hens.

Transition from rearing to laying environment

165. The environment in which pullets are reared should be matched as far as possible to their adult environment. There should be close liaison between the pullet rearer and layer site to ensure birds are reared in such a way as to reduce the stress at transition.

Annex 1: Legislation affecting laying hens and pullets

The main requirements are summarised below. This does not represent an exhaustive list and note that some legislation is regularly updated and/or amended. All UK legislation can be found at: <http://www.legislation.gov.uk>

The Animal Welfare Act 2006:
<https://www.legislation.gov.uk/ukpga/2006/45/contents>

The Welfare of Farmed Animals (England) Regulations 2007:
<http://www.legislation.gov.uk/uksi/2007/2078/contents/made>

The Mutilations (Permitted Procedures) (England) Regulations 2007:
<http://www.legislation.gov.uk/uksi/2007/1100/contents/made>

Transport

For information on transporting laying hens, see:

- Council Regulation (EC) No 1/2005 (the protection of animals during transport and related operations) <http://extwprlegs1.fao.org/docs/pdf/eur69655.pdf>
- the Welfare of Animals (Transport) (England) Order 2006 <http://www.legislation.gov.uk/uksi/2006/3260/contents/made>
- and associated guidance <https://www.gov.uk/guidance/farm-animal-welfare-during-transportation>

Slaughter

- For information on welfare at slaughter and killing laying hens, see:
- Council Regulation (EC) No 1099/2009

(the protection of animals at the time of killing) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/325000/regulation_1099_2009_en.pdf

- and associated domestic legislation and guidance

Disease control and biosecurity

For guidance on registering poultry, see:
<https://www.gov.uk/guidance/poultry-registration>

See the Animal Health Act 1981:
<https://www.legislation.gov.uk/ukpga/1981/22>

Responsible medicines usage and record keeping

See the following:

The Avian Influenza (Preventative Measures) (England) Regulations 2006 requires those keeping 50 birds or more to register their flock with APHA.

The Control of Salmonella in Poultry Order 2007 requires certain records to be kept (including at hatcheries) and Salmonella testing to be carried out for breeding and laying flocks.

Newcastle disease is covered by the **Diseases of Poultry (England) Order 2003** which requires those keeping flocks of at least 250 birds to keep certain records.

The Veterinary Medicines Regulations 2013 require records to be kept on medicine usage, administration and disposal of unused medicines. Records must be kept for at least 5 years.

Note: The Welfare of Farmed Animals (England) Regulations 2007 relates to recording what medicine

is administered and when (for welfare purposes) and applies to all farm animals. The Veterinary Medicines Regulations 2013 recording requirements describe in detail what must be recorded, how long the records must be kept and includes the requirement for records of when and where medicines are acquired in addition to the requirement for records at the time of administration.

Record keeping requirements are additionally set out in the Animals and Animal Products (Examination for Residues and Maximum Residue Limits) Regulations 1997, Part V, paragraph 32:
<http://www.legislation.gov.uk/ukxi/1997/1729/contents/made>

Commission Regulation (EU) No 37/2010 on pharmacologically active substances and their classification regarding maximum residue limits in foodstuffs of animal origin:
<http://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A32010R0037>

Animal by-products

For the requirements on storage, transport and disposal of animal by-products such as dead carcasses, manure and litter see:

- Council Regulation (EC) No 1069/2009 <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:300:0001:0033:EN:PDF>
- Commission Regulation (EU) No 142/2011 <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:054:0001:0254:EN:PDF>

The requirements are enforced by The Animal By-Products (Enforcement) (England) Regulation 2013.
<http://www.legislation.gov.uk/ukxi/2013/2952/contents/made>

Annex 2: Permitted procedures

All mutilations of laying hens are banned under the Animal Welfare Act 2006. The Mutilations (Permitted Procedures) (England) Regulations 2007 excludes certain procedures from this ban. The permitted procedures for all laying hens and for chicks that are intended to become laying hens, are listed below. The list is correct at the point of publication.

- Micro-chipping for identification can be carried out.
- Wing tagging for identification – the law states this procedure:
 - may only be carried out on farmed birds for the purposes of breed improvement programmes or testing for the presence of disease.
- Other methods of identification involving a mutilation required by law can be carried out.
- Beak trimming – the law states that, if this procedure is carried out, it:
 - must be performed using a suitable instrument;
 - must be performed on both the lower and upper beaks, with not more than one third of each removed, or the upper beak only, with not more than one third removed; and
 - any subsequent haemorrhage from the beak must be arrested by cauterisation.

For laying hens and chicks that are intended to become laying hens, which are kept on establishments with 350 or more such birds, the law states that beak trimming:

- may only be performed in order to prevent feather pecking or cannibalism;
- may only be carried out using infra-red technology*;

- may not be performed on birds which are aged 10 days or over*; and
- must be carried out by a person who has been provided with suitable and sufficient information, instruction and training so that they are qualified to perform the procedure.

* These sub-paragraphs do not apply where the procedure is carried out in an emergency in order to control an outbreak of feather pecking or cannibalism.

- De-toeing – the law states:
 - this procedure can only be carried out on a bird that is less than 3 days of age unless a veterinary surgeon considers that it is necessary;
 - an anaesthetic must be administered where the bird is aged 3 days or over.
- Dubbing – the law states:
 - this procedure can only be carried out on a bird that is less than 3 days of age unless a veterinary surgeon considers that it is necessary;
 - an anaesthetic must be administered where the bird is aged 3 days or over.
- Laparoscopy (examination of the abdominal cavity by insertion of an instrument called a laparoscope) – the law states:
 - this procedure can only be carried out if an anaesthetic is administered.

Sources of further information

Code of recommendations of the Council of Europe

This Code takes account of the Council of Europe recommendations concerning domestic fowl (*Gallus gallus*). These set out general principles of husbandry and care and include a section on laying hens. See: <https://rm.coe.int/16805165ec>

Slaughter

The Humane Slaughter Association has a Code of Practice for the Disposal of Chicks in Hatcheries.

Transport

For information on handling and transport, see:

- Joint Industry Welfare Guide on the Handling and Transport of End-of-Lay Hens <http://www.britisheggindustryCouncil.co.uk/download/JIWGHLEHB.pdf>
- Humane Slaughter Association's Poultry Catching and Handling guidance [https://www.hsa.org.uk/shop/publications-1/product/-poultry-catching-and-handling-\(free-pdf\)](https://www.hsa.org.uk/shop/publications-1/product/-poultry-catching-and-handling-(free-pdf))

Animal by-products

For information on animal by-products, see:

www.gov.uk/guidance/animal-by-product-categories-site-approval-hygiene-and-disposal

Welfare outcome assessments

For advice on measuring welfare outcomes, see:

- AssureWel: www.assurewel.org
- FeatherWel: <http://www.featherwel.org/>

Disease control and biosecurity

For advice on Avian influenza, see:

<https://www.gov.uk/government/publications/biosecurity-and-preventing-disease>

For information on the Salmonella National Control Programme, see: <https://www.gov.uk/government/publications/the-uk-national-control-programme-for-salmonella-in-layers-gallus-gallus>

For the disease surveillance dashboards, see: <http://apha.defra.gov.uk/vet-gateway/surveillance/scanning/disease-dashboards.htm>

Antimicrobials and vaccines

For guidance on the responsible use of antimicrobials and vaccines, see:

- www.ruma.org.uk/poultry/
- <https://www.farmantibiotics.org/media-news-updates/progress-by-sector/egg-production/>

Egg marketing and trading

For information on egg marketing and trading, see: <https://www.gov.uk/guidance/eggs-trade-regulations>

**These sources of further information are for information only and should not be considered to be part of the Code of Practice. These sources of information are current on the date that this Code is published (please see the final page for the date of publication). Any of the sources of information listed here could change.*

Date of publication: 8 August 2018